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(54) **Thin film overvoltage protection device.**

(57) Various solid-state overvoltage protection devices, preferably formed of deposited thin film materials including Ovonic threshold switching materials, are disclosed. The devices each typically have at least one elongated current conductive path through an elongated cross-sectional area of the threshold switching material between two spaced apart electrodes. The cross-sectional are has a length far exceeding its effective width in order to distribute the transient current produced by overvoltage conditions over a relatively large area, and thereby avoid any concentration of localized heating effects. A number of device configurations having such elongated current paths are disclosed, including some configurations have slot-like openings in insulating layers and others having adjacent elongated electrodes horizontally and vertically displaced from one another so as to provide a substantially diagonal current path.

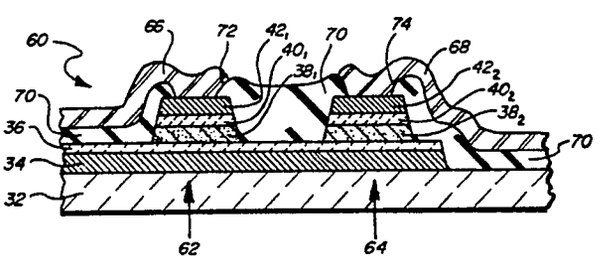

FIG. 2

EP 0 269 224 A3

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EUROPEAN SEARCH REPORT

Application Number

EP 87 30 8722

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
X Y	WO-A-8 301 153 (INTERFACES) * page 5, line 16 - page 14, line 30; figures 1,2,5 *	1,2,10, 11 6-11	H 01 L 45/00
X	IBM TECHNICAL DISCLOSURE BULLETIN vol. 21, no. 6, November 1978, pages 2396,2397, New York, US; W.L. WRIGHT:"Electrostatic discharge protection of fet gates with thin film capacitors" * the whole document *	1,8,9	
D,Y	US-A-3 886 577 (W.D. BUCKLEY) * the whole document *	6,8-11	
Y	US-A-4 433 342 (V.N. PATEL et al.) * column 3, line 12 - column 4, line 36; figure 2 *	6-8	
A	AT-A- 333 380 (TOSHIBA) * the whole document *	1	

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

H 01 L
H 02 H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
BERLIN	26-05-1989	ROUSSEL A T

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
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